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SAFEGUARDING ORCHARD INVESTMENT IN POSTWAR PERIOD

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The economic position of the fruit grower is determined mainly by the general business situation—the level of consumer income, the general price level and the level of employment. The demand for fruit is elastic and the strength of this demand is predictated upon consumer income in this country and our exports of fruit abroad at prices other countries can pay and at prices at which we can afford to sell.

In appraising the economic position of the fruit grower in the postwar period, it is necessary that we first review the general outlook with respect to the national income, farm income, prices, employment, domestic demand, and foreign demand.

Comparison of the Two World War Periods

A comparison of the First and Second World Wars shows a striking similarity. Farm prices, wholesale prices, land values and costs of production in this war have followed a similar pattern to the years 1914 to 1920. Consumer incomes and Federal debts have increased much more during the present war than in the First World War period. Ceiling prices in the last two years have tended to hold farm, wholesale and retail prices down and there has been a leveling out of prices recently.

Farm prices continued to rise for about two years following the close of the First World War. Then they took a sudden drop about 1921, and another serious decline in 1929. While prices of things bought by farmers declined some, they tended to remain at a much higher level. Thus, for a period of about 20 years from the fall of 1921 to the fall of 1941, farm commodity prices were very low compared with prices of things farmers had to buy.

Three Separate Phases of Postwar Period

There are expected to be three distinct phases of the postwar period. These might be called the transition or reconversion phase; the industrial prosperity period; and the question mark period.

The period of reconversion from wartime to peacetime economy, theoretically will start at the time peace is declared, and will continue for sometime after the close of the war in the Pacific. Its severity will depend upon the time intervening between the close of the war in Europe and the war in the Pacific. This period will be characterized by unemployment as war plants are closed for conversion to peacetime production. Reliable sources estimate a reduction of 10 percent in employment as soon as peace is declared in Europe, and this rate of unemployment will continue to increase for a period of from 6 months to a year. This period will be characterized by a reduced national income probably of 20 percent, and lower farm prices and income. Probably the ratio of prices received by farmers to prices paid by farmers will decline, resulting in a less favorable purchasing power ratio.

The next phase of our economy will be the industrial boom period. Industry will have reconverted and will be producing huge volumes of durable and non-durable goods to satisfy the demands of consumers for things they have been denied during the war. With accumulated savings the people are expected to make heavy purchases. There will be such a demand for goods and services that unless controlled, it will result in the greatest buying boom in our history.

We will enter the third phase of postwar economy when the backlog of human wants for goods and services has been satisfied. This may be called the period of recovery or adjustment of peacetime spending to peacetime earnings. Will this be a period of depression or a period of normalcy? This may be the trying period for farmers, business, and industry. It may be comparable to the period of 1929 to 1939.

Farm Income and Prices

Farm prices will decline some in 1945. Already prices seem to have leveled out, and for some commodities were lower during the latter part of 1944 than for the corresponding period of 1943. The level of farm income in the short-time period will depend upon the level of employment and national income in this country and the demand abroad.

The national income in 1944 was 157 billions of dollars. During the first 6 months after victory in Europe, the income is expected to decline to 135.7 billions of dollars, or 14 percent. The postwar level of national income will be about 108 billions of dollars after the close of the war with Japan. This will represent a level of income 32 percent below that of 1944. By late 1946 as many as 8,000,000 persons may be unemployed.

Net farm income in 1944 is estimated at 12.6 billions of dollars. For the first 6 months after the close of the European War, it is expected to decline to 11.1 billions of dollars, a decline of about 1.5 billions of dollars below the 1944 level. Another 2.1 billion decline is expected after both wars end, a decrease to 9.0 billions of dollars, or 29 percent under the level of 1944.

The year 1947 is likely to be one of postwar recovery, with both national and farm income recovering from the temporary adjustment period. Industry will be speeding up after reconversion from wartime to peacetime production.

The long-time outlook is for decreased foreign trade for agricultural products. The long-time outlook for domestic demand will depend upon the level of employment and income. We cannot expect to have a good domestic demand for our farm products, high farm prices and incomes unless we have full employment in industry and a high national income.

Congress has passed the Steagall Amendment extending price floors for the basic and proclamation commodities for two calendar years after the war at not less than 90 percent of parity or comparable price. If prices are supported at 90 to 100 percent of parity the tendency will be for farmers to overexpand production. The Government will have to buy at high prices and sell at low prices, and it is inconceivable that the Government can continue such deficit financing.

Probably neither price supports nor price ceilings should be removed entirely as soon as the war is over, but they should be tapered off. The present policy of the Government to set prices on apples at so much per bushel, instead of on the basis of grade and quality, is a step backward in our grading work.

Some Things That Should Be Done to Strengthen the Economic Position of Fruit Grower

1. *Recapture and strengthen our export market.*

It would be a tragedy if we should fail to develop our foreign trade. We need to develop bilateral and multilateral trade agreements, to eliminate trade barriers, and to develop a sound policy of two-way trade. We need this not only for the sake of a high standard of living among our own people but for the sake of world peace.

The fruit growers of the Cumberland-Shenandoah region should take an active and vigorous part in promoting the resumption of our foreign trade. They should be in a position to export 15 or 20 percent of the production and take up any slack or surplus. To this end, they should promote the formation of a National Council, such as the U. S. Horticultural Council, which would represent the fresh fruit industry in matters relating to world trade and be instrumental

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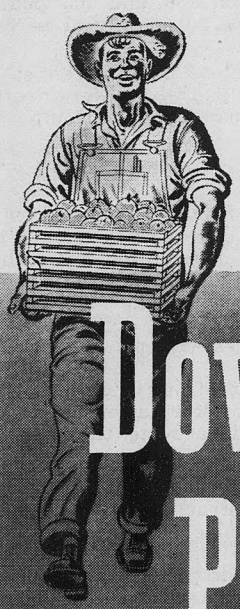

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in improving internal matters. We need a united front, some organization that would have authority and bargaining power in dealing with countries on problems relating to foreign trade.

2. *Increase the consumption of deciduous fruits.*

The per capita consumption of fresh citrus fruits averaged 48.8 pounds for the years 1935-1939 and has increased each year since, reaching a total of 65.6 pounds in 1944. On the other hand, the consumption of commercial apples averaged 30.2 pounds per person for the years 1935-1939, and 26.9 pounds in 1944. In other words, the consumption of apples in 1944 was only 41 percent of the consumption of citrus fruits.

There is no logical reason why the consumption of apples cannot be increased. This will require closer cooperation among the growers, better advertising, better cultural practices, better packing and packaging, and improved sales and merchandising methods.

3. *Narrow the spread between the price the producer receives and the price the consumer pays.*

In spite of the fact that farmers in the United States have received a slightly higher percentage of the retail price for their commodities during the recent period of higher prices in general, our system of distribution is woefully inefficient. In September 1944, for 50 agricultural commodities, the farmer received only 52 percent of the retail sales price, and on many he received less than 35 percent. The farmers' share of the retail price on apples was 39 percent. Consumers pay about two and one-half times the price producers receive for fresh fruits.

Fruit growers should be concerned with the distribution of fruit and should give careful consideration to means of lowering the cost. More attention should be given to shortening the channels of distribution and carrying the products nearer to the consumer.

4. *Improve market facilities.*

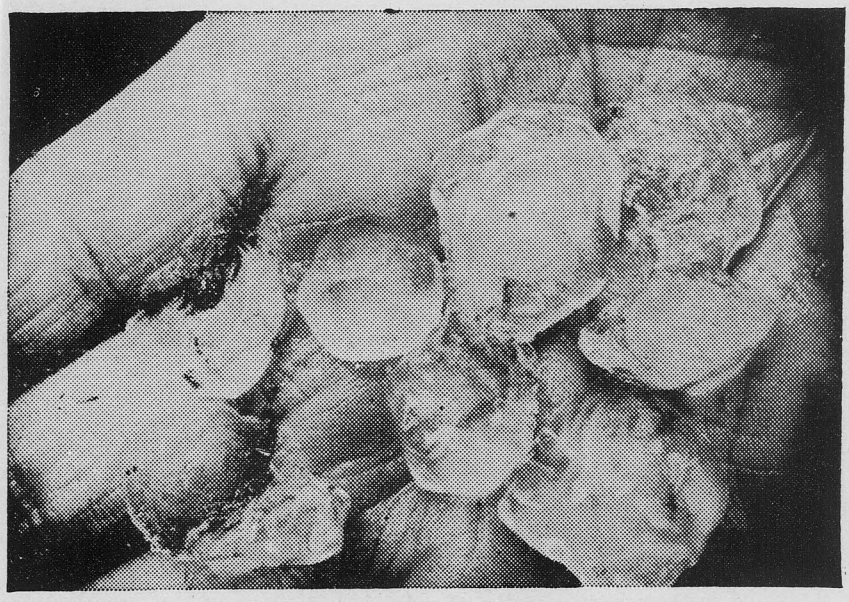
Because of the complex production and marketing structure that has been developed through the years, the distribution of perishable foods, particularly fruits and vegetables, involves more problems than are encountered with any other category of farm products. Inefficient practices, improper organization, and unsuitable facilities, have contributed heavily to the high costs of distributing these commodities. The cost of transporting, wholesaling, jobbing, and retailing these foods through inefficient and obsolete facilities must be reduced.

A study made of the Baltimore wholesale fruit and vegetable markets indicates that excessive handling and delivery costs for fruits and vegetables alone in this market amount to $1,000,000 annually. The saving that could be effected through a reduction in the cost of distribution by having a modern consolidated wholesale produce market in Baltimore would pay for the market improvements in 4 years. Plans are now being made to rebuild and improve these terminal market facilities in the postwar period.

5. *Do not overexpand*

High prices for fruits tend to stimulate increased plantings. Fruit growers, as a whole, give too little thought to the bad results of alternating periods of heavy and light planting of trees. Good rotation plantings on fruit farms produce many desirable results, such as greater economic stability within the industry, more even distribution of income, better preservation of the soil resources, reduction in disease and insect damages, and better opportunity to take advantages of improved varieties and orchard practices.

Land prices in Maryland have risen 42 percent since the beginning of the war and are increasing at the rate of 1½ percent per month. Many growers in Maryland are still handicapped by high-priced land purchased after the last war. It would not be wise to expand production by acquiring additional land at greatly inflated prices, in view of the long-time economic outlook. Rather than buy additional land to plant more trees, growers should build up sufficient reserves to tide them over the bad years. Reserves should be sufficient to pay all expenses of one year's operations, and preferably for two years. For example, an orchardist with operating expenses of $5,000 should have a reserve of $5,000 to $10,000. The less diversified a fruit grower is, the more reserve he should have to carry him over a longer period. It is not economy to spend



A Handfull of Trouble

EVERY grower knows that five minutes of heavy hail can seriously damage or destroy a crop. Yet, many growers are content in the belief that it always hails on the other fellow's farm. Have you stopped to think that sooner or later *you will be the other fellow?*

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needlessly from current income in order to reduce income tax payments.

Growers should improve their land, buildings and equipment for greater efficiency and to meet the increasing competition in fruit growing.

Debts should be curtailed as rapidly as possible and any surplus of income should be carefully and wisely invested in as liquid form as possible.

Farm record keeping plays an important part in safeguarding investments in orchards. Such records need not be in great detail.

Fluctuating income is a characteristic of the fruit growing business. Thus it is important that a fruit grower choose that form of record keeping which will give greater regularity of taxable income and thereby cause him to pay no more than his just share of tax.

6. *Be alert to take advantage of new and proven developments in science.*

Materials and equipment should be available to can and freeze an increasing proportion of the fruit crops. If this can be done at a lower cost per unit of product, new market outlets as well as old ones should be reached throughout the year.

Have You Read the Advertisements?

*SELECTION AND HANDLING OF FRUIT FOR QUALITY IN THE FREEZER-LOCKER**

A. LEE SCHRADER,
Department of Horticulture, University of Maryland,
College Park, Maryland

This discussion is designed to assist the locker-plant operators and patrons in Maryland in the selection of fruits and subsequent handling to obtain the best edible quality in the frozen product. It has been emphasized numerous times that the freezing of poor-quality fruit does not improve the fruit, but actually results in products inferior to the fruit before freezing. High quality of the frozen product depends upon the preservation of the delicate aromas, the pleasing texture, and the palatable combination of fruit sugars and acids that are found in the well-ripened fruit, but are so easily missed or lost through poor selection of varieties, immature fruits, or poor handling after harvest. Most fruits are called **perishable** because quality is lost rapidly after harvest.

More attention will be given to Maryland-grown fruits than to fruits shipped from distant areas, as it is easier to obtain high quality when locally-grown fruits can be allowed to become more mature on the tree or plant and the period from harvest to freezing can be minimized.

STRAWBERRIES

Strawberries are grown widely in the state with especially concentrated commercial plantings on the Eastern Shore of Maryland where berries are sold through local auction blocks and move to market largely by truck during the period of May 10 to June 15. Strawberries also can be grown successfully by the home owner or the general farmer.

Varieties Available from Maryland Commercial Plantings

Blakemore—early, leading variety in commercial plantings. Used widely by commercial freezers. A tart, acid berry, not of high-dessert quality. Firm fleshed, bright red color. May run small.

Premier—early, suitable for freezing Not at tart as Blakemore, and softer.

Dorsett—early, high-dessert quality, firm berry that freezes well. May have white centers some seasons.

Fairfax—early, high-dessert quality, firm berry that freezes well. Turns dark red as it ripens, but is excellent eating quality in spite of dark color, that lessens the attractiveness somewhat.

Chesapeake—a late, firm berry suitable for freezing, but somewhat seedy. Excellent quality.

Other Varieties—newer, firm-fleshed, high-quality varieties that may be suitable for freezing, include Midland (early), Starbright (midseason), and Redstar (very late).

What to Look For—a bright red berry, firm flesh, fully ripened with no white center or white tip, not too seedy, rich flavor with some tartness, and not too small size. *Varieties vary in suitability for freezing* so look for the

* Miscellaneous Publication No. 37. Contribution No. 1973 of the Maryland Agricultural Experiment Station (Department of Horticulture).

Supplement to Maryland Fruit Grower, May, 1945

The Freeze

By the time these notes are printed every grower probably will know the latest regarding crop prospects but a few observations may be of interest. The cold nights of April 5 and 6 caused considerable damage to peaches and apples in the Cumberland-Shenandoah section and on Eastern Shore of Maryland. The damage varied from severe to moderate, and there was a goodly amount of uninjured fruit left. Then on May 1, the temperature dropped into the low twenties and caused severe damage in Western Maryland, Southern Pennsylvania, and the Virginias. This second visit of cold weather did not reach Eastern Shore. The final crop remaining will be known after the June drop, or rather the May drop has occurred. Injury varied according to location, elevation, variety, vigor, amount of bloom, and in cases, nearby bodies of water seemed to have some effect. In general, the higher location escaped heavy injury. The Hancock section may have 10% to 15% of an apple crop, and a very small peach crop, not estimated. Smithsburg reported all fruit killed in the lowlands, and almost full crops of peaches on higher land. Central Maryland was injured in varying degrees. Montgomery County has a rather good peach crop, but very few apples. Baltimore County has good crops of all fruits. Eastern Shore may have 20% of an apple crop, mostly early varieties, and possibly 15% of a peach crop. But remember, these figures are only early estimates and may rise or fall as the crop develops. The raspberry crop in Hagerstown Valley was badly hurt on lowland and the Eastern Shore early strawberry crop was badly hit, but later bloom set well. The scattered condition of the crop will tax the ingenuity of growers in deciding what to spray and what to abandon. The cool weather delayed the development of curculio, codling moth, and caused some shifting of sprays to combat apple scab in some sections. There have been several freezes in other fruit sections such as New York, New England, and the Mid-West, so a greatly reduced fruit crop seems to be a certainty. In some places fruit growers have turned to canning crops where cannery contracts are available and some growers have placed their regular labor crews in woodlands to produce pulpwood, mine props, etc.

Appalachian Apple Service Bulletin 123, May 21, 1945, gives a preliminary estimate of APPLE prospects or "guesses", as: Appalachian area 30%; (Va. 20%; Penna. 60%; W. Va. & Md. 25%); N. Y. and Northeastern area 50%; Michigan 36%; Ohio 25%; Indiana, Illinois and Far Eastern States about same as last year. PEACHES are heavy in the South, possibly 8 million bushels above last year. Crop prospects (or "guesses") on basis of last year's crop (1944) are given as: Va. 20% of last season; W. Va., Md., Penna. 60-70%, or about 45% of 1944 crop, for the area. Michigan reports a 53% crop; Illinois, very good; Ohio, very low; and New Jersey has about 75% of 1944.

PRICE CEILINGS ON APPLES for 1945 have not been announced and efforts are being made to qualify under the "disaster clause" for higher ceilings. The Industry Advisory Committee succeeded in having the "cents per pound" mark-up established on last year's crop. The mark-up is 2 1/2 and 3¢ per pound, replacing the flat 33 1/3% mark-up which discouraged the sale of lower grade apples, but it came rather late. Present apple ceilings are: (1944 crop) $3.17 per bu. f.o.b. until June 6, and $3.22 per bu. f.o.b. until end of season. Present ceiling on 1945 crop apples is $2.85 per bushel, but new ceilings are expected to be announced soon. The Industry Advisory Committee has been busy on this matter.

PRICE CEILINGS ON PEACHES, effective May 18, are: $4.41 until June 18; $3.64 thereafter. Half-bushel prices are $2.37 through June 17 and $1.98 thereafter. Per pound ceiling at shipping point is 9.2¢ through June 17 and 7.5¢ thereafter. Early variety ceiling is 41¢ above 1944 ceiling and later peaches are 2¢ per bushel less than 1944. As soon as the official crop estimates are released (June 1) an effort will be made to have Appalachian peaches included under the "disaster clause" for higher ceilings.

NEW DEVELOPMENTS AT MARKET TERMINALS do not look so good. Bulletins of both National Apple Institute and Appalachian Apple Service tell of the latest action of unions whereby trucks arriving in Philadelphia wholesale produce markets must be driven by union drivers, or bona fide farmers or their sons. The action may spread to all East Seacoast markets. Several grower organizations are combining to fight the regulation. Also, the unions have signed a contract with New York City fruit and produce dealers in which dealers agree not to operate on Saturdays. Waste and confusion are likely to follow such procedures. In the case of the union drivers, it is not enough to pick up a "pilot driver" in the city, as the truck driver must be a union man or a farmer or his son. The grower or his driver must pay the union dues and the driver receives union wages. Wotta mess!

CODLING MOTH may become a real problem again this season, as there is a "short pasture" due to the smaller apple crop. An Illinois report shows that in 1944 the growers in the Clean Apple Club had good results from the arsenate of lead program, but they sprayed heavily, especially in the tree tops. They also practiced orchard sanitation, including, pruning; scraping; cleaning out rough spots; holes, crevices, etc. on the trees; destroying all trash and debris; screening packing sheds and packgge storages; removing wormy apples and drops at intervals. Of course, nobody can do all these things but doing some of them will help.

Out in Kansas some experimental work done by U.S. Bureau of Entomology and Plant Quarantine showed that on 18 year old Jonathan trees 35.2% of the codling moth larvae on check trees either entered hibernation or developed into moths. On trees which were scraped there were 20.7% larvae which became moths and on trees both scraped and banded with treated bands, only 13.9% of the larvae ever reached maturity.

The war is not over. Don't be misled. There's a tough job ahead. Notice that this month's Maryland Fruit Grower is printed in smaller type to save paper, and also, no mailing envelopes are used. They are almost impossible to buy. So keep right on buying War Bonds and saving fats,, tin, and paper until we are told to stop. Anything we can do to end this war, no matter how difficult, or how small, is a necessity. From all reports, the Pacific struggle is no "push-over".

COLD STORAGE HOLDINGS of apples on May 1, 1945, are reported by War Food Administration as 5,533,000 bushels compared to 2,251,000 bushels in storage on May 1, 1944, and 4,001,000 bushels as a 5 year average on May 1, 1940-44. On April 1, 1945 there were 11,573,000 bushels on ice, so 6,040,000 busehls were moved out of storage during April. Of the May 1, 1945, holdings, there were 21,000 barrels; 2,008,000 Western boxes; 1,756,000 Eastern boxes, and 1,706,000 bushels baskets.

A. F. Vierheller
Extension Horticulturist.

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variety. Some are not good or only fair. Avoid tail-end pickings of any variety or overripe, soft fruit.

Handling for Best Quality

Bruising—Strawberries are easily bruised at harvest time if handled roughly or if not picked by grasping only the stem. Also bruising can occur at time of capping.

Sorting—Discard all berries not fully ripened and those at overripe stage as well as berries with rot or other defects.

Storage—If necessary to hold before freezing, store berries at 32° F. or as cool as possible above this temperature for one day only. Do not cap berries or handle before storage.

Slicing Versus Whole Berries—Slicing the berries (except varieties with white centers) improves the quality of the frozen product, but whole fruit can be frozen and will save time in preparation especially if frozen fruits are to be used for making jams, preserves, or pies.

Washing—Use cold water in washing. Wash after capping.

RASPBERRIES

Extensive commercial plantings of raspberries, mostly black raspberries, are to be found around Boonsboro and Frederick and in the area north and south of Boonsboro, Maryland. Harvest season occurs about June 15 to July 15, and shipments are made by truck and rail mostly to the west of the area. Harvesting is done in the morning hours so that shipment can be made at noon to reach the next morning's market. Home owners can grow raspberries successfully, but not both red and black varieties in the same planting.

Varieties Available from Maryland Commercial Plantings

Latham—most of the red raspberry plantings consist of this variety which has been found very suitable for freezing. It is a good quality, firm berry, but not the highest dessert quality among reds. It is well adapted to Maryland conditions west of the Chesapeake Bay, and fairly well adapted to the Eastern Shore if kept free of diseases.

Taylor—a high-quality, dessert type that is fine for freezing but only limited plantings are found.

Other Red Varieties—most red varieties of quality and firmness can be used for freezing. Avoid crumbly or soft berry varieties.

Purple Varieties—these sorts make a very pleasing product, but are not grown much in Maryland.

What to Look For—try to get locally grown varieties of large, firm berries that are clean and free from worms and seediness. Black raspberry varieties tend to give a seedy product, and hence are frozen usually only for pies, preserves, or jellies. Cumberland and Logan are the main black varieties and are the main raspberries of the Western Maryland area.

Handling for Best Quality

Bruising—Raspberries, especially red, are more easily bruised than strawberries, hence special care should be given in the handling during harvest and subsequent preparation for freezing, if a fine product of whole berries is desired.

Sorting—Before washing discard overripe and immature berries. Decay and other defects should be watched for all through the procedures.

Storage—Berries after harvest should be cooled as quickly as possible, and never be allowed to stand in the open sun. To retain the finest raspberry flavor and firmness, the berries should be frozen the same day of harvest, and if necessary, be held only one day at cool temperature, preferably 32° F. in the original containers. Raspberries are more perishable than strawberries, especially in the loss of flavor and freshness.

Washing—Use cold water for the purpose of retarding deterioration during preparation of the berries, and for keeping berries firm for handling.

PEACHES

Peaches, along with strawberries, raspberries, and apples, represent a major fruit crop of Maryland, grown widely over the state in commercial plantings, but not easily grown by the home owner in small plantings because of the difficulty of handling the spraying job. The harvest season of peaches of Maryland starts about July 15 and lasts until October 1 with the main part of the crop ripening between August 1 and September 1. Major areas of production are centered about Berlin, Salisbury, Easton, Baltimore, Washington, D. C., Frederick, Hagerstown, Smithsburg, and Hancock.

Varieties—The most desirable varieties of peaches for freezing that are grown in Maryland in commercial quantities are Vedette, Halehaven, and Early Elberta, which ripen between August 1 and August 20. Halehaven and Vedette are relatively new peaches, but Halehaven is extensively planted and Vedette is

coming into new plantings, although rather limited in production at present. The three varieties mentioned are yellow, freestone peaches of high quality. Good products also have been obtained with Golden Jubilee, Shippers Late, Rio Oso Gem, and Salberta, except for the red juice and red color of the pit cavity of Shippers Late and Rio Oso Gem.

Other Yellow Varieties of High Quality—These varieties include Eclipse and J. H. Hale that can be found in limited quantity in Maryland orchards. Veefreeze, a new Canadian variety, has not been planted in Maryland, but is especially adapted to freezing and may be found to be adapted to some part of Maryland. Some other new varieties, now being planted in commercial orchards, are especially well suited to freezing and include Newday, Pacemaker, Summercrest, and Redskin. *Elberta is not suitable* for freezing, except for use as pie stock.

What to Look For—Peach varieties may differ widely in their suitability for freezing so that it will pay to find the varieties that are listed. Some varieties that are fine to eat as fresh fruit do not make a good frozen product. The white-fleshed varieties have not been found satisfactory. Be sure to have well-ripened fruit that is soft but not overripe, and preferably fruit that is well-ripened on the tree. Good growers avoid grass-green fruits at havest time, but select firm-ripe fruits, not eating ripe, for further ripening after harvest. The firm-ripe peaches are not so easily bruised as soft-ripe peaches at harvest time.

HANDLING BEFORE FREEZING

Bruising—A well-ripened peach is easily bruised, and a discolored flesh is the result. Eggs withstand rougher handling than peaches.

Sorting—Only experience in recognition of full-ripeness of peaches can assure a quality pack of frozen peaches. Yellow ground color and degree of softness are the main indicators, but if peaches do not peel readily they are not ready to process.

Storage—Peaches can be held in cold storage two weeks but deteriorate very much in fresh flavor. A period of one to four days at ordinary temperature (70-75° F.) is necessary after harvest for the ripening of firm-ripe fruits to the stage soft enough for use. *Select only those fruits that are fully ripe* and hold less-ripened fruits for another day or two, since all fruits cannot be harvested at exactly the same stage of maturity. When the fruit is eating ripe, do not delay the freezing, but if a delay is necessary at this time, fruit should be held in cold storage, or a cold refrigerator (40° F. or less).

OTHER MARYLAND FRUITS THAT CAN BE USED FOR FREEZING

Apple—Stayman Winesap preferably, but other winter varieties can be used. Not usually frozen, except for pie stock. Apple segments not over one-quarter inch in thickness should be used. Blanching of slices with steam for 3-5 minutes is necessary. Cool quickly with spray of water and pack in syrup (20%), or ratio of 1 sugar to 5 of fruit.

Blackberries and Boysenberries—rather soft for handling but can be used, especially for cobblers, jams, and preserves. Considerable acreage of blackberries in the raspberry area of western Maryland, ripening about July 5 to 20, mostly Eldorado. Boysenberries also are there in limited amount. Handle as with raspberries.

Blueberries—no commercial plantings in Maryland. May be some in future years as new plantings are being started.

WORK PLANNED AT THE MARYLAND AGRICULTURAL EXPERIMENT STATION

Some freezing work has been done on peaches, strawberries, and cherries at the University of Maryland, but other notes on freezing in this article have been gleaned from various sources in publication. In 1944, some experimental work with fruit grown in Maryland was done to determine varietal suitability and other facts of interest to locker-plant operators and commercial freezers. It is of interest to note that new varieties of fruits that are being introduced constantly have been developed in many cases with the freezing process in mind so that it is probable that better freezing varieties of several fruits will be grown as time goes on. Certain peach varieties now are more suitable because they do not oxidize and turn brown. Rapid handling and the use of sugar-syrup instead of dry sugar, of course have aided in the preservation of those fruits that oxidize readily. In the handling of peach and apple pieces in processing at the Maryland Station, the use of thio-carbamide (also sold under the trade name of Frulite) has been very effective in retaining natural color during preparation, slicing, etc. This material takes the place of salt or citric acid, and has the advantage that it is tasteless and harmless.

TABLE I Outline of Essential Considerations in the Preservation by Freezing of Raspberries and Strawberries in Maryland

Kind of Fruit	*Commercial Varieties in Order of Season*	*Quality Factors*	*Special Precautions*	*Steps in Preparation*	*Notes on Types of Packs**	*Uses of Frozen Product*
Strawberries Maryland Season is from May 10 to June 15	Blakemore Premier Dorsett Fairfax Chesapeake	*Must be ripe* but not soft. Slicing improves quality and increases amount of pack in container. Wash thoroly to remove sand or other foreign matter.	Cool berries as much as possible before slicing. Re-sort at time of slicing to eliminate overripe berries.	Sort Remove hulls Wash thoroly and drain Slice Add sugar and mix thoroly Pack Seal air-tight	Whole or sliced berries are mixed with dry sugar (ratio 1 sugar to 4 of fruit). Sugar syrup (50%) also can be used. Honey can substitute for ⅔ of sugar.	Dessert Cooking for preserves, jams and pies. Dry sugar pack is desirable for the cooking use and whole berries can be used.
Raspberries Maryland Season is from June 15 to July 10	*Reds* Latham Taylor *Blacks* Cumberland Logan	Well-grown, large-sized berries at full-ripe stage are essential. *Handle gently.* Small, seedy berries or over-ripe berries are not usable.	Freeze as soon as possible after harvest. Keep berries cool and out of direct sun at harvest.	Sort Wash in cold water. Drain Pack and cover with 40% syrup. or mix with dry sugar (ratio 1 sugar to 4 of fruit). Pack Stir with knife Seal air-tight	Sugar pack gives best dessert flavor. Berries also can be crushed with sugar to pack more in container, especially black varieties to be used for cooking.	Dessert Cooking of black varieties for jams, preserves and pies.

*NOTE—Do not pack container completely full. Leave ¼ inch space at top.

TABLE II Outline of Essential Considerations in the Preservation by Freezing of

Kind of Fruit	*Commercial Varieties in Order of Season*	*Quality Factors*	*Special Precautions*	*Steps in Preparation*	*Notes on Type of Pack**	*Use of Frozen Product*

*NOTE—Do not pack container completely full. Leave ¼ inch space at top.

TABLE II Outline of Essential Considerations in the Preservation by Freezing of Fruits and Vegetables

Kind of Fruit	*Commercial Varieties in Order of Season*	*Quality Factors*	*Special Precautions*	*Steps in Preparation*	*Notes on Type of Pack**	*Use of Frozen Product*
Sour Cherries Maryland Season is from July 1 to July 15	Early Richmond English Morello Montmorency	Fully-ripe, well-grown fruits with good eating flavor. *Handle and pack rapidly* after thoro chilling of cherries in ice water.	Cover cherries rapidly as packed. Place in freezer as soon as possible.	Sort Wash Chill in ice water. Remove stems and pits. Mix with sugar (ratio 1 sugar to 3 of fruit). Pack Cover with 50% syrup.	If pitting by hand results in little juice, 50% syrup can be used in place of dry sugar. If no pitting is done, use syrup pack.	Dessert Mostly pies or cooked sauce.
Peaches Maryland Season is from July 15 to Sept. 10	Golden Jubilee Vedette* Halehaven* Early Elberta Elberta (for pie stock only). Shippers Late Rio Oso Gem Salberta *Best available in Maryland.	Most important are *full ripeness and rapid handling.* Fruit must peel readily after hot-water or steam treatment of 1 minute. Keep peeled halves in cold water and remove bruised spots before slicing.	Cool quickly after hot - water or steam treatment. Keep peeled slices in cold water. Cover sliced fruit immediately with *cold* syrup after packing.	Sort for ripeness. Halve and remove pits. Place in boiling water or steam to loosen peels. Immerse in cold water. Remove peels. Slice (4 or 5 slices per half). Pack and add 50% syrup at once. Stir with knife. Seal air-tight.	Best pack from sliced fruit covered with 40-50% syrup. Halves not suitable for small packages. Halves may be diced if desired or if time is lacking to do slicing.	Dessert except Elberta variety. Do not open package until completely thawed.

*NOTE—Do not pack container completely full. Leave ½ inch space at top.

SPECIAL ALLOCATION

By War Food Administration

D-X PYRETHRUM

for CODLING MOTH Control

Due to the extreme scarcity of nicotine for the manufacture of D-X Nicotine and use by fruit growers for the control of codling moth, we are prepared to supply D-X Pyrethrum to do the same work as per special allocation by the War Food Administration and the War Production Board for this codling moth emergency. It is packed in gallons and five gallon cans only.

D-X Pyrethrum is used in the same way and manner as D-X Nicotine and is sold at the same price. It contains .75% pyrethrins plus extractives. Our experience with D-X since 1938 is assurance that this material will control codling moth equal to our former D-X Pyrethrum-Rotenone or D-X Nicotine.

FOR APPLES

The following suggestions are for 100 gallons of water.

In the second or third week after calyx, aimed at the peak of moth emergence—

1 to 1½ pints D-X Pyrethrum
3 lbs. arsenate of lead with usual fungicide

Two weeks later, aimed at the peak of larva hatch—

1 to 1½ pints D-X Pyrethrum
3 lbs. arsenate of lead

Second Brood Spraying. At the peak of the larva hatch, and repeat in ten days—

1 to 1½ pints D-X Pyrethrum
1 lb. Black Leaf 155

or

1½ pints D-X Pyrethrum
3 quarts Summer Spra-Cream

or

1 to 1½ pints D-X Pyrethrum
2 lbs. arsenate of lead

Where an oil-lead schedule is followed, use 1 pint D-X Pyrethrum, 3 lbs. arsenate of lead, and 4 quarts Summer Spra-Cream (summer oil) applied at 7 to 10 day intervals (with usual precaution against using summer oil on sulfur sprayed foliage).

Advise your dealer to substitute D-X Pyrethrum for D-X Nicotine for your orders.

B. G. PRATT COMPANY

Manufacturing Chemists

Hackensack **Dept. "F"** **New Jersey**